



Plate 10. Seismic sections KL-MN-OP include: The southern limits of the Eastern Kentucky Syncline, Southeastern Kentucky Uplift, and the Floyd County Embayment; basement faults of the New York-Alabama Lineament, Wise County Prominence, and Fishtrap Lake Depression; younger backthrusts, forethrusts, and monoclinical folds caused by compressive buckling of the Southeastern Kentucky Uplift; and still younger thrusts and fault slivers of the Pine Mountain Fault System which form the sole of the overriding Cumberland Allochthon. The southeast-dipping forethrusts, shown in Sections MN and OP to be asymptotic to Zone E, project upward above the Wise County Prominence and are inferred to reflect a single fault zone. Deep-seated thrust faults also occur to west and south of the Lexington and Irvine-Paint Creek Lineaments. Similar faults are recorded by Milici and others (1979) beneath the Cumberland Plateau and Valley and Ridge in Tennessee where ramp faults at various levels were inferred to coalesce. In Kentucky, however, the thrusts truncate opposing backthrusts and appear to reflect distinct tectonic pulses that acted in widely separated areas. Furthermore, slippage at these depths fails to explain translation of underlying basement rocks, so decollement must also have occurred at still greater depths.

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.